FILE 'HOME' ENTERED AT 13:41:41 ON 26 MAY 2005

=> file biosis caplus caba agricola

=> s Funaria or Sphagnum or Sphaerocarpos or Physcomitrella or Ceratodon or Marchantia
L1 14142 FUNARIA OR SPHAGNUM OR SPHAEROCARPOS OR PHYSCOMITRELLA OR CERATODON OR MARCHANTIA

=> s l1 and transform?
L2 377 L1 AND TRANSFORM?

=> duplicate remove l2
L3 263 DUPLICATE REMOVE L2 (114 DUPLICATES REMOVED)

=> d ti 1-50

L3 ANSWER 1 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Rho2 small GTPase from Saccharomyces cerevisiae and its homologs for the production of fine chemicals in transgenic microorganisms and plants

L3 ANSWER 2 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Method and apparatus for oil spill containment by oil adsorbent

L3 ANSWER 3 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Protein and cDNA sequences of casein kinase stress-related proteins (CKSRP) and methods of use for increasing stress tolerance in transgenic plants

L3 ANSWER 4 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Constructs comprising recombination sequences flanking transgene for enhancing gene expression in moss **Physcomitrella** patens

L3 ANSWER 5 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Targeted site-directed mutagenesis of a heme oxygenase locus by gene replacement in the moss **Ceratodon** purpureus

L3 ANSWER 6 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation
TI Organochlorine pollutants in soils and mosses from Victoria Land (Antarctica).

L3 ANSWER 7 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Method to produce proteins with animal glycosylation pattern in bryophyte cells by knocking out genes for β 1,2-xylosyltransferase and α 1,3-fucosyltransferase and integrating human β 1,4-galactosyltransferase gene

L3 ANSWER 8 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Simultaneous targeting of multiple genes for homologous integration of foreign DNA in bryophytes

L3 ANSWER 9 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Nitrate reduction and **transformation** in organic compost media: laboratory batch studies

L3 ANSWER 10 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Competitive sorption and desorption of chlorinated organic solvents (DNAPLs) in engineered natural organic matter

L3 ANSWER 11 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Construction of a BAC library of **Physcomitrella** patens and isolation of a LEA gene.

L3 ANSWER 12 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Knockout of UBP34 in **Physcomitrella** patens reveals the photoaffinity labeling of another closely related IPR protein.

L3 ANSWER 13 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI Growth, production and interspecific competition in **Sphagnum**: effects of temperature, nitrogen and sulphur treatments on a boreal mire.

L3 ANSWER 14 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI An improved and highly standardised **transformation** procedure allows efficient production of single and multiple targeted gene-knockouts in a moss, **Physcomitrella** patens.

L3 ANSWER 15 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 4
TI Sorption Characteristics of Inorganic, Methyl and Elemental Mercury on Lichens and Mosses: Implication in Biogeochemical Cycling of Mercury

L3 ANSWER 16 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on

TI Plastid **transformation** reveals that moss tRNAArg-CCG is not essential for plastid function.

L3 ANSWER 17 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Enhancing the attenuation of explosives in surface soils at military facilities: Combined sorption and biodegradation.

L3 ANSWER 18 OF 263 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN
TI The moss bioreactor.

L3 ANSWER 19 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Unprecedented lipoxygenase/hydroperoxide lyase pathways in the moss **Physcomitrella** patens

L3 ANSWER 20 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Co
TI Asymmetric **transformation** of enol acetates with esterases from **Marchantia** polymorpha.

L3 ANSWER 21 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Cellulose synthase (CesA) genes in algae and non-vascular plants

L3 ANSWER 22 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Applied genomics in **Physcomitrella**

L3 ANSWER 23 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Principles of targeted mutagenesis in the moss **Physcomitrella** patens

L3 ANSWER 24 OF 263 CABA COPYRIGHT 2005 CABI on STN
TI Nitrate reduction and **transformation** in organic compost media: laboratory batch studies.

L3 ANSWER 25 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Protein and cDNA sequences of plant ion transporter stress-related polypeptides and use for plant stress resistance

L3 ANSWER 26 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Protein and cDNA sequences of plant protein kinase stress-related polypeptides and methods of use in plants

L3 ANSWER 27 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Method for identifying eukaryotic internal ribosome entry site (IRES) elements active in cap-independent translations, and expression of gene of interest using identified IRES element

L3 ANSWER 28 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Novel method for mapping of genes in sexually reproducing eukaryotic organisms

L3 ANSWER 29 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Protein and cDNA sequences of amine oxidase stress-related proteins and use in plant stress resistance

L3 ANSWER 30 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Genes encoding growth development-related proteins of **Physcomitrella** patens for regulation of cell division, growth and biomass formation in transgenic plants

L3 ANSWER 31 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Solid matrix control of seed conditioning using selected cell cycle stages

L3 ANSWER 32 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Total synthesis of (±)-α-chamigrene-3-one

L3 ANSWER 33 OF 263 CABA COPYRIGHT 2005 CABI on STN
TI Response of an ombrotrophic bog to a regional climate event revealed by macrofossil, molecular and carbon isotopic data.

L3 ANSWER 34 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Impact of the presence of solids on peroxidase-catalyzed treatment of aqueous phenol

L3 ANSWER 35 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI RNA interference in the moss **Physcomitrella** patens.

L3 ANSWER 36 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation oTI
Two types of plastid ftsZ genes in the liverwort **Marchantia** polymorpha.

L3 ANSWER 37 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Multidimensional site description of peatlands drained for forestry.

L3 ANSWER 38 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Spatial organization and taxonomical composition of microbial community in peat.

L3 ANSWER 39 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Methyl-D-erythritol phosphate pathway gene gcpE from Arabidopsis thaliana and other plants

L3 ANSWER 40 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Cloning, characterization and biotechnological use of **Physcomitrella** patens proteins and enzymes involved in the synthesis of amino acids, vitamins, cofactors, nucleotides and nucleosides

L3 ANSWER 41 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI **Transformation** vector for chloroplast of the moss **Physcomitrella** patens

L3 ANSWER 42 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Moss gene technology.

L3 ANSWER 43 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI The treasure trove of algal chloroplast genomes. Surprises in architecture and gene content, and their functional implications.

L3 ANSWER 44 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Cultivation system and conservation of wetland from the viewpoint of ground water quality succession process from lake to bog

L3 ANSWER 45 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 10
TI A new moss genetics: Targeted mutagenesis in **Physcomitrella** patens

L3 ANSWER 46 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on

TI Promoter subfragments of the sugar beet V-type H+-ATPase subunit c isoform drive the expression of transgenes in the moss **Physcomitrella** patens.

L3 ANSWER 47 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Effects of wood-ash on the tree growth, vegetation and substrate quality of a drained mire: A case study.

L3 ANSWER 48 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Moss gene technology

L3 ANSWER 49 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on

TI Testing the sensitivity of the palaeoclimatic signal from ombrotrophic peat bogs in northern England and the Scottish Borders.

L3 ANSWER 50 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Correlation of ploidy level and phenotype in **Physcomitrella** patens.

=> d bib abs 45 42 40

L3 ANSWER 45 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 10
AN 2002:541288 CAPLUS
DN 137:166160
TI A new moss genetics: Targeted mutagenesis in **Physcomitrella** patens
AU Schaefer, Didier G.
CS Institut d'Ecologie, Laboratoire de Phytogenetique Cellulaire, Universite de Lausanne, Lausanne, CH-1015, Switz.
SO Annual Review of Plant Biology (2002), 53, 477-501
CODEN: ARPBDW
PB Annual Reviews Inc.
DT Journal; General Review
LA English
AB A review. The potential of moss as a model system to study plant biol. is associated with a relatively simple developmental pattern that nevertheless resembles the basic organization of the body plan of land plants, the direct access to cell-lineage anal., their similar responses to plant growth factors and environmental stimuli as those observed in other land plants, and the dominance of the gametophyte in the life cycle that facilitates genetic approaches. **Transformation** studies in the moss **Physcomitrella** patens have revealed a totally unique feature for plants, i.e., that foreign DNA sequences integrate in the genome preferentially at targeted locations by homologous recombination, enabling for the first time in plants the application of the powerful mol. genetic approaches used routinely in bacteria, yeast, and since 1989, the mouse embryonic stem cells. This article reviews our current knowledge of **Physcomitrella** patens **transformation** and its unique suitability for functional genomic studies.
RE.CNT 134 THERE ARE 134 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 42 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
AN 2003:283954 BIOSIS
DN PREV200300283954
TI Moss gene technology.
AU Knight, Celia D. [Reprint Author]; Cove, David J. [Reprint Author]; Cuming, Andrew C. [Reprint Author]; Quatrano, Ralph S.
CS Centre for Plant Sciences, University of Leeds, Leeds, UK
SO Gilmartin, Philip M. [Editor, Reprint Author]; Bowler, Chris [Editor]. (2002) pp. 285-301. Molecular plant biology: A practical approach. Volume Two. print.
Publisher: Oxford University Press, 198 Madison Avenue, New York, NY, 10016, USA. Series: Practical Approach Series.
ISSN: 0957-025X (ISSN print). ISBN: 0-19-963818-7 (paper).

DT Book; (Book Chapter)
(Protocol)
LA English
ED Entered STN: 19 Jun 2003
Last Updated on STN: 19 Jun 2003

L3 ANSWER 40 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:755097 CAPLUS
DN 137:275028
TI Cloning, characterization and biotechnological use of **Physcomitrella** patens proteins and enzymes involved in the synthesis of amino acids, vitamins, cofactors, nucleotides and nucleosides
IN Lerchl, Jens; Renz, Andreas; Ehrhardt, Thomas; Reindl, Andreas; Cirpus, Petra; Bischoff, Friedrich; Frank, Markus; Freund, Annette; Duwenig, Elke; Schmidt, Ralf-Michael; Reski, Ralf
PA Germany
SO U.S. Pat. Appl. Publ., 107 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2002142422	A1	20021003	US 2000-734017	20001212
PRAI US 1999-171100P	P	19991216		

AB Isolated nucleic acid mols., designated metabolic pathway protein (MP) nucleic acid mols., which encode novel MP proteins from Phycomitrella patens are are described. The cDNA sequences and the encoded amino acid sequences of a number of MP enzymes and proteins are disclosed. The invention also provides antisense nucleic acid mols., recombinant expression vectors containing MP protein nucleic acid mols., and host cells into which the expression vectors have been introduced. The invention still further provides isolated MP proteins, mutated MP proteins, fusion proteins, antigenic peptides and methods for the improvement of production of a desired compound from **transformed** cells, organisms or plants based on genetic engineering of MP protein genes in these organisms.

=> d ti 51-100

L3 ANSWER 51 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Optimisation of a bioreactor culture of the moss **Physcomitrella** patens for mass production of protoplasts.

L3 ANSWER 52 OF 263 CABA COPYRIGHT 2005 CABI on STN
TI [Spectroscopic characterization (DRIFT and SERS) of different nominal molecular weight humic acid fractions].
Caratterizzazione di frazioni di acido umico a diversa massa molecolare nominale mediante le spettroscopie vibrazionali DRIFT e SERS.

L3 ANSWER 53 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Effect of vegetation and site preparation on the restocking of Scots pine and birch in dwarf-schrub and Vaccinium vitis-idaea type peatland forests.
Original Title: Kasvillisuuden ja maanmuokkauksen vaikutus mannyn ja koivun taimettumiseen varpu- ja puolukkaturvekankailla..

L3 ANSWER 54 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Mechanochemical **transformations** in peats of various types

L3 ANSWER 55 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI High frequency of phenotypic deviations in **Physcomitrella** patens plants **transformed** with a gene-disruption library.

L3 ANSWER 56 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Protein and cDNA sequence of **Physcomitrella** patens protein kinase stress-related proteins and uses in plants for increased tolerance to environmental stresses

L3 ANSWER 57 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Protein and cDNA sequence of **Physcomitrella** patens signal transduction stress-related proteins and uses in plants for increased tolerance to environmental stresses

L3 ANSWER 58 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Protein and cDNA sequence of **Physcomitrella** patens cell cycle stress-related proteins and uses in plants for increased tolerance to environmental stresses

L3 ANSWER 59 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Transcription factor stress-related proteins and methods of use in plants

L3 ANSWER 60 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Transgenic plants expressing GTP-binding stress-related protein (GBSRP) genes for increased tolerance of environmental stress

L3 ANSWER 61 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Transgenic plants expressing potassium channel stress-related proteins (PCSRP) for enhancing the tolerance to environmental stresses

L3 ANSWER 62 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Pyrophosphatase stress-related proteins (PPSRP) of **Physcomitrella** and their use in improving plant environmental stress tolerance

L3 ANSWER 63 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Transgenic plants expressing transfection factor stress-related proteins (TFSRP) for enhancing the tolerance to environmental stresses

L3 ANSWER 64 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Protein kinase stress-related proteins (PKSRP) of **Physcomitrella** and their use in improving plant tolerance to environmental stress

L3 ANSWER 65 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Moss genes from **Physcomitrella** patens encoding proteins involved in the synthesis of carbohydrates

L3 ANSWER 66 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Moss genes from **Physcomitrella** patens encoding proteins involved in the synthesis of tocopherols and carotenoids

L3 ANSWER 67 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Genes of **Physcomitrella** patens encoding homologs of enzymes of the synthesis of polyunsaturated fatty acids and lipids

L3 ANSWER 68 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Method for production of proteins with mosses

L3 ANSWER 69 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Distinct constitutive and low-CO2-induced CO2 uptake systems in cyanobacteria: Genes involved and their phylogenetic relationship with homologous genes in other organisms.

L3 ANSWER 70 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Characterization of the phosphatase activities of mosses in relation to their environment.

L3 ANSWER 71 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Cloning of the PpMSH-2 cDNA of **Physcomitrella** patens, a moss in which gene targeting by homologous recombination occurs at high frequency.

L3 ANSWER 72 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Establishment of a semicontinuous bioreactor culture of **Physcomitrella** patens for mass production of protoplasts

L3 ANSWER 73 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN

TI Influence of the extractant on acid-base properties of peat humic acids

L3 ANSWER 74 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Effects of soilless medium on the growth and fruit yield of tomatoes supplied with urea and/or nitrate

L3 ANSWER 75 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Aseptic culture technique and **transformation** of **Marchantia** polymorpha

L3 ANSWER 76 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 18
TI Gene targeting in **Physcomitrella** patens

L3 ANSWER 77 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI The genomics of land plant chloroplasts: Gene content and alteration of genomic information by RNA editing.

L3 ANSWER 78 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Establishment of gene-trap and enhancer-trap systems in the moss **Physcomitrella** patens.

L3 ANSWER 79 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Development of chloroplast **transformation** system in **Physcomitrella** patens.

L3 ANSWER 80 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Chloroplast **transformation** of the bryophyte **Physcomitrella** patens.

L3 ANSWER 81 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Genetic analysis of the moss, **Physcomitrella** patens: an examination of genetic **transformants** and the isolation and analysis of homologues of higher plant knotted1-like homeobox genes

L3 ANSWER 82 OF 263 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN
TI Effect of peat type and pH on breakdown of peat using fourier **transform** infrared spectroscopy.

L3 ANSWER 83 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Degradation of 13C-U-glucose in **Sphagnum** majus litter: Responses to redox, pH, and temperature.

L3 ANSWER 84 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI A highly efficient in vitro cranberry regeneration system using leaf explants.

L3 ANSWER 85 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Chemical fluxes from sediments in two adirondack wetlands: Effects of an acid-neutralization experiment.

L3 ANSWER 86 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Kinetics of cytokinin production and bud formation in **Physcomitrella**: analysis of wild type, a developmental mutant and two of its ipt transgenics

L3 ANSWER 87 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI The transition to pleurocarpy: a phylogenetic analysis of the main diplolepidous lineages based on rbcL sequences and morphology

L3 ANSWER 88 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 22
TI Microinjection of heme oxygenase genes rescues phytochrome-chromophore-deficient mutants of the moss **Ceratodon** purpureus

L3 ANSWER 89 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Structural characterization of humic substances from an acidic peat using thermochemolysis techniques.

L3 ANSWER 90 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Treatment wall for reduction of road runoff contaminants

L3 ANSWER 91 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI The bryophyte **Physcomitrella** patens replicates extrachromosomal transgenic elements.

L3 ANSWER 92 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI Morphometric variation among larvae of four species of lungless salamanders (Caudata: Plethodontidae).

L3 ANSWER 93 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI The Moss, **Physcomitrella** patens.

L3 ANSWER 94 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Direct **transformation** and plant regeneration of the haploid liverwort **Marchantia** polymorpha L.

L3 ANSWER 95 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Protonemal and spoeling ontogeny of Leucobryum glaucum (Hedw.) angstr.

L3 ANSWER 96 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Comparison of expressed sequence tags from male and female sexual organs of **Marchantia** polymorpha

L3 ANSWER 97 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI The Kuegelhofer Moortopf in Hohenlohe, Germany - scientific research of its development and settlement history in its vicinity.
Original Title: Der Kugelhofer Moortopf in Hohenlohe - Naturwissenschaftliche Untersuchungen zu seiner Entwicklung und zur Besiedlungsgeschichte in seiner Umgebung -.

L3 ANSWER 98 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Bryophytes as model systems.

L3 ANSWER 99 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Changes in the delta34S ratio of pore-water sulfate in incubated **Sphagnum** peat.

L3 ANSWER 100 OF 263 CABA COPYRIGHT 2005 CABI on STN
TI [Use of ash in the fertilisation of peatland forests].
Tuhkan kaytto suometsien lannoituksessa.

=> d bib abs 94 93 88 86 81 76 75 72 68

L3 ANSWER 94 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
AN 2001:41036 BIOSIS
DN PREV200100041036
TI Direct **transformation** and plant regeneration of the haploid liverwort **Marchantia** polymorpha L.
AU Takenaka, Mizuki; Yamaoka, Shohei; Hanajiri, Tsutomu; Shimizu-Ueda, Yuu; Yamato, Katsuyuki T.; Fukuzawa, Hideya; Ohyama, Kanji [Reprint author]
CS Laboratory of Plant Molecular Biology, Division of Integrated Life Science, Graduate School of Biostudies, Kyoto University, Kyoto, 606-8502, Japan
kohyama@lif.kyoto-u.ac.jp
SO Transgenic Research, (June, 2000) Vol. 9, No. 3, pp. 179-185. print.
ISSN: 0962-8819.
DT Article
LA English
ED Entered STN: 17 Jan 2001

Last Updated on STN: 12 Feb 2002
AB Thalli of the haploid liverwort **Marchantia** polymorpha were successfully used for direct particle bombardment with plasmid pMT, which carries a hygromycin phosphotransferase gene (hpt) controlled by the CaMV 35S promoter and the NOS polyadenylation region. Hygromycin-resistant cell masses arose from the thallus surface and developed directly into hygromycin-resistant thalli. Southern blot analyses indicated that these thalli carried at least 1-4 copies of the hpt gene, which were stably transmitted to their asexual thallus progenies via gemma propagation for three generations. This **transformation** and direct plant regeneration protocol is expected to be a valuable tool for the molecular analysis of this lower land plant.

L3 ANSWER 93 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
AN 2001:258121 BIOSIS
DN PREV200100258121
TI The Moss, **Physcomitrella** patens.
AU Cove, David [Reprint author]
CS Leeds Institute of Plant Biotechnology and Agriculture, University of Leeds, Leeds, LS2 9JT, UK
d.j.cove@leeds.ac.uk
SO Journal of Plant Growth Regulation, (Sept, 2000) Vol. 19, No. 3, pp. 275-283. print.
CODEN: JPGRDI. ISSN: 0721-7595.
DT Article
LA English
ED Entered STN: 30 May 2001
Last Updated on STN: 19 Feb 2002
AB The tractability of the moss, **Physcomitrella** patens, to genetic analysis and the accessibility of its living tissues to direct observation make this species an extremely attractive system for studying plant development. The gametophyte generation, being haploid, allows direct detection of mutant phenotypes. The protonemal stage of gametophyte development is composed of cell filaments that facilitate detailed study of cell polarity and pattern determination. Techniques for the molecular analysis of gene expression include **transformation**, using either polyethylene glycol mediated uptake of DNA by protoplasts or biolistic delivery into protonemal tissue. When **transforming** DNA contains sequences homologous to genomic sequences, recombination can occur with high frequency, providing a way not only for the directed inactivation of genes, but also for precise allele replacement. Further development of the system is required, and priorities include the establishment of a gene tagging system. Other moss species have different advantages and a further priority must be the extension of the techniques devised for **Physcomitrella** to other moss species.

L3 ANSWER 88 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 22
AN 2000:153483 CAPLUS
DN 133:130430
TI Microinjection of heme oxygenase genes rescues phytochrome-chromophore-deficient mutants of the moss **Ceratodon** purpureus
AU Brucker, Gerhard; Zeidler, Mathias; Kohchi, Takayuki; Hartmann, Elmar; Lamparter, Tilman
CS Institut fur Biologie (Pflanzenphysiologie), Freie Universitat Berlin, Berlin, 14195, Germany
SO Planta (2000), 210(4), 529-535
CODEN: PLANAB; ISSN: 0032-0935
PB Springer-Verlag
DT Journal
LA English
AB In protonemal tip cells of the moss **Ceratodon** purpureus (Hedw.) Brid., phototropism and chlorophyll accumulation are regulated by the photoreceptor phytochrome. The mutant ptr116 lacks both responses as a result of a defect in the biosynthesis of phytochromobilin, the chromophore of phytochrome, at the point of biliverdin formation. The rescue of the phototropic response and of chlorophyll synthesis were tested by injecting different substances into tip cells of ptr116.

Microinjection was first optimized with the use of fluorescent dyes and an expression plasmid containing a green fluorescent protein (GFP) gene. Injected phycocyanobilin, which substitutes for phytochromobilin, rescued both the phototropic response and light-induced chlorophyll accumulation in ptr116. The same results were obtained when expression plasmids with heme oxygenase genes of rat (HO-1) and Arabidopsis thaliana (L.) Heynh. (HY1) were injected. Heme oxygenase catalyzes the conversion of heme into biliverdin. Whereas HY1 has a plastid target sequence and is presumably transferred to plastids, HO-1 is proposed to be cytosolic. The data show that ptr116 lacks heme oxygenase enzyme activity and indicate that heme oxygenases of various origin are active in **Ceratodon** bilin synthesis. In addition, it can be inferred from the data that the intracellular localization of the expressed heme oxygenase is not important since the plastid enzyme can be replaced by a cytosolic one.

RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 86 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:520990 CAPLUS
DN 133:205456
TI Kinetics of cytokinin production and bud formation in **Physcomitrella**: analysis of wild type, a developmental mutant and two of its ipt transgenics
AU Schulz, P.; Reski, R.; Maldiney, R.; Laloue, M.; von Schwartzenberg, K.
CS Laboratoire de Biologie Cellulaire, Institut National de la Recherche Agronomique, Centre Versailles, Versailles, F-78026, Fr.
SO Journal of Plant Physiology (2000), 156(5-6), 768-774
CODEN: JPPHEY; ISSN: 0176-1617
PB Urban & Fischer Verlag
DT Journal
LA English
AB Cytokinins that are known to induce bud formation in mosses were quantified during the course of development of **Physcomitrella** patens (Hedw.) B.S.G. Analyses were carried out on wild type, the developmental mutant PC22 and two ipt-transgenic strains of PC22. The major cytokinins detected were isopentenyladenine (iP) and isopentenyladenosine ([9R]iP). The cytokinin overproducing ipt-strains released large amts. of iP into the culture medium (up to 32 nmol/L). For **Physcomitrella** wild type an iP maximum at day 9 preceded bud formation, which occurred at day 13. In the developmental mutant PC22 iP maxima were found at day 9 and at day 21; however, bud formation was not observed within this time. Two transgenics of this mutant, carrying the Agrobacterium ipt gene under control of its own promoter, released up to 34 and 372-fold more iP into the culture medium and continuously produced malformed buds beginning from the first days of culture. The time courses correlating the onset of bud formation with extracellular iP show for all 4 genotypes that iP concentration does not continuously increase but is fluctuating.

RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 81 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:852725 CAPLUS
DN 136:364418
TI Genetic analysis of the moss, **Physcomitrella** patens: an examination of genetic **transformants** and the isolation and analysis of homologues of higher plant knotted1-like homeobox genes
AU Champagne, Connie E. M.
CS Univ. of Regina, Regina, SK, Can.
SO (2000) 190 pp. Avail.: UMI, Order No. DANQ54668
From: Diss. Abstr. Int., B 2001, 61(12), 6262
DT Dissertation
LA English
AB Unavailable

L3 ANSWER 76 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 18
AN 2001:274771 CAPLUS

DN 136:48835
TI Gene targeting in **Physcomitrella** patens
AU Schaefer, Didier G.
CS Institut d'ecologie, Laboratoire de Phytogenetique Cellulaire, Batiment de Biologie, Universite de Lausanne, Lausanne, CH-1015, Switz.
SO Current Opinion in Plant Biology (2001), 4(2), 143-150
CODEN: COPBFZ; ISSN: 1369-5266
PB Elsevier Science Ltd.
DT Journal; General Review
LA English
AB A review with refs discussing gene-targeting efficiency in the land plant **Physcomitrella** patens (Bryophyta). Sequencing programs and microbiol. mol. genetic approaches are being developed to unravel the precise function of plant genes. **Physcomitrella** patens, as the new "green yeast", might well become a major tool for functional genomic studies of multicellular eukaryotes.
RE.CNT 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 75 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:255352 CAPLUS
DN 136:32195
TI Aseptic culture technique and **transformation** of **Marchantia** polymorpha
AU Takenaka, Mizuki; Oyama, Kanji
CS Graduate School of Life Science, Kyoto University, Japan
SO Shokubutsu Saibo Kogaku Shirizu (2001), 14(Shokubutsu no Genomu Kenkyu Purotokoru), 155-162
CODEN: SSKSFR
PB Shujunsha
DT Journal; General Review
LA Japanese
AB A review on the methods of aseptic culture and genetic **transformation** of **Marchantia** polymorpha is disclosed. Cultivation of the leaf tissues in M51C medium and **transformation** of the culture by using gold particles and polyethylene glycol were shown.

L3 ANSWER 72 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:62363 CAPLUS
DN 136:260054
TI Establishment of a semicontinuous bioreactor culture of **Physcomitrella** patens for mass production of protoplasts
AU Hohe, A.; Schween, G.; Reski, R.
CS University of Freiburg, Plant Biotechnology, Freiburg, D-79104, Germany
SO Acta Horticulturae (2001), 560(Proceedings of the 4th International Symposium on In Vitro Culture and Horticultural Breeding, 2000), 425-428
CODEN: AHORA2; ISSN: 0567-7572
PB International Society for Horticultural Science
DT Journal
LA English
AB For large scale protoplast **transformation** of the moss **Physcomitrella** patens (Hedw.) B.S.G. semicontinuous protonema suspension cultures in bioreactors were established and optimized with regard to the yield of protoplasts. Supplementation of Knop medium with 2.5 mM ammonium tartrate markedly improved the protoplast yield (7.4 + 104 protoplasts/mg dry weight). Bioreactor culture was performed in 51 vessels. By harvesting on average 1100 mL/day which corresponds to a dilution rate of 0.22/d a semicontinuous culture was maintained for 49 days yielding 51 l of suspension culture. Beginning 11 days after the start of the bioreactor run around 6 % of the cells were polyploid (4C) which might indicate aging of the culture caused by phytohormone accumulation.
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 68 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:265617 CAPLUS

DN 134:276509
TI Method for production of proteins with mosses
IN Reski, Ralf; Gorr, Gilbert
PA Greenovation Pflanzenbiotechnologie G.m.b.H., Germany
SO PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001025456	A2	20010412	WO 2000-DE3374	20000927
	WO 2001025456	A3	20011227		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	DE 19947290	A1	20010419	DE 1999-19947290	19991001
	CA 2381995	AA	20010412	CA 2000-2381995	20000927
	EP 1206561	A2	20020522	EP 2000-972602	20000927
	EP 1206561	B1	20030219		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
	BR 2000014671	A	20020723	BR 2000-14671	20000927
	AT 232904	E	20030315	AT 2000-972602	20000927
	JP 2003511035	T2	20030325	JP 2001-528608	20000927
	EE 200200159	A	20030415	EE 2002-159	20000927
	NZ 517996	A	20030630	NZ 2000-517996	20000927
	PT 1206561	T	20030630	PT 2000-972602	20000927
	ES 2192545	T3	20031016	ES 2000-972602	20000927
	CZ 293818	B6	20040818	CZ 2002-1061	20000927
	RU 2250264	C2	20050420	RU 2002-111666	20000927
	ZA 2002002007	A	20030728	ZA 2002-2007	20020311
	NO 2002001201	A	20020508	NO 2002-1201	20020312
	BG 106547	A	20030430	BG 2002-106547	20020322
	HR 20020250	B1	20041231	HR 2002-250	20020325
PRAI	DE 1999-19947290	A	19991001		
	WO 2000-DE3374	W	20000927		

AB The invention relates to a new method for production of heterologous proteins in plant material. In the preferred method selected complete moss plants are cultivated and the desired target substances obtained from the culture medium essentially without disturbing the produced tissues and cells. The method allows a cost effective production of all manner of heterologous proteins in their resp. active form under standardizable conditions. Thus, **Physcomitrella** patens **transformed** with a human VEGF expression plasmid was cultured in a bioreactor and biol. active VEGF was isolated from the medium.

=> d ti 101-150

L3 ANSWER 101 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Transgene expression in the moss **Ceratodon** purpureus.

L3 ANSWER 102 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI The transition to pleurocarpy: A phylogenetic analysis of the main diplolepidous lineages based on rbcL sequences and morphology.

L3 ANSWER 103 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Photoautotrophic cultures of the host and **transformed** cells of **Marchantia** polymorpha under controlled incident light intensity.

L3 ANSWER 104 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI The spatial distribution of larvae of Culicoides impunctatus biting midges.

L3 ANSWER 105 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Molecular genetics of **Physcomitrella**

L3 ANSWER 106 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Structural and isotopic evidence for in-situ formation of DOM in Peatland

L3 ANSWER 107 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Synthesis of paleatin B, an open-chain natural bis(bibenzyl) constituent of **Marchantia** paleacea var. diptera

L3 ANSWER 108 OF 263 CABA COPYRIGHT 2005 CABI on STN
TI Short-term effects of changing water table on N2O fluxes from peat monoliths from natural and drained boreal peatlands.

L3 ANSWER 109 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI A specific member of the Cab multigene family can be efficiently targeted and disrupted in the moss **Physcomitrella** patens.

L3 ANSWER 110 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Particle bombardment mediated **transformation** and GFP expression in the moss **Physcomitrella** patens

L3 ANSWER 111 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Plastid promoters for transgene expression in the plastids of higher plants

L3 ANSWER 112 OF 263 CABA COPYRIGHT 2005 CABI on STN
TI Aphids in wetland biotopes of Switzerland (fens and raised bogs).

L3 ANSWER 113 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Blue light but not red light induces a calcium transient in the moss **Physcomitrella** patens (Hedw.) B., S. and G.

L3 ANSWER 114 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Characterization of peat fulvic acid fractions by means of FT-IR, SERS, and 1H, 13C NMR spectroscopy.

L3 ANSWER 115 OF 263 CABA COPYRIGHT 2005 CABI on STN
TI **Physcomitrella** and Arabidopsis: the David and Goliath of reverse genetics.

L3 ANSWER 116 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Expression of the bacterial ipt gene in **Physcomitrella** rescues mutations in budding and in plastid division.

L3 ANSWER 117 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Spectroscopic characterization of pyrophosphate incorporation during extraction of peat humic acids.

L3 ANSWER 118 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI DNA content of two cytotypes of **Funaria** hygrometrica.

L3 ANSWER 119 OF 263 CABA COPYRIGHT 2005 CABI on STN
TI Response: targeting Arabidopsis.

L3 ANSWER 120 OF 263 CABA COPYRIGHT 2005 CABI on STN
TI Towards targeted **transformation** in plants.

L3 ANSWER 121 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Identification of a novel DELTA6-acyl-group desaturase by targeted gene disruption in **Physcomitrella** patens.

L3 ANSWER 122 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on

TI Development, genetics and molecular biology of mosses.

L3 ANSWER 123 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Emissions from smoldering combustion of biomass measured by open-path Fourier **transform** infrared spectroscopy

L3 ANSWER 124 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Disruption of the plastid ycf10 open reading frame affects uptake of inorganic carbon in the chloroplast of Chlamydomonas.

L3 ANSWER 125 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Efficient gene targeting in the moss **Physcomitrella** patens.

L3 ANSWER 126 OF 263 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN
TI Methane and carbon dioxide exchange potentials of peat soils in aerobic and anaerobic laboratory incubations.

L3 ANSWER 127 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Characterization of humic substances using FTIR, SERS and (1H, 13C, 31P) NMR spectroscopy

L3 ANSWER 128 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Efficient **transformation** of **Marchantia** polymorpha that is haploid and has very small genome DNA.

L3 ANSWER 129 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Microbial glucose **transformation** in sediment after liming of the acidified Lake Gaardsjoen, Sweden

L3 ANSWER 130 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Isolation, purification and characterization of UDP-glucose: CIS-p-coumaric acid beta-D- glucosyltransferase from **Sphagnum** fallax.

L3 ANSWER 131 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Endo-1,3-beta-glucanase and cellulase from Trichoderma harzianum: Purification and partial characterization, induction of and biological activity against plant pathogenic Pythium spp.

L3 ANSWER 132 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Brachycytes in **Funaria** protonemata: Induction by abscisic acid and fine structure.

L3 ANSWER 133 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI High frequency genetic **transformants** of **Physcomitrella** patens possess an autonomously replicating, extrachromosomal, concatemeric, transgenic element.

L3 ANSWER 134 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Holocene climate effects on the development of a peatland on the Tuktoyaktuk Peninsula, Northwest Territories

L3 ANSWER 135 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Study on main trace elements in the plants of forest swamp **transformed** in Xiao Xingan mountains

L3 ANSWER 136 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Nitrogen turnover in alternatives to peat.

L3 ANSWER 137 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Genetic analysis of the effects of re-**transformation** of transgenic lines of the moss **Physcomitrella** patens.

L3 ANSWER 138 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on

TI Stable **transformation** of cultured cells of the liverwort **Marchantia** polymorpha by particle bombardment.

L3 ANSWER 139 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Determination of soil separates with near infrared reflectance spectroscopy

L3 ANSWER 140 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Tetracycline-regulated reporter gene expression in the moss **Physcomitrella** patens.

L3 ANSWER 141 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI The moss, **Physcomitrella** patens, **transformed** with apoaequorin cDNA responds to cold shock, mechanical perturbation and pH with transient increases in cytoplasmic calcium.

L3 ANSWER 142 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Stand structure of undrained and drained peatland forests in central Finland.

L3 ANSWER 143 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Monitoring the activity of different Trichoderma isolates by the isoelectric points (pI) of their extracellular enzymes

L3 ANSWER 144 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
TI Mathematical modeling of low-temperature thermolysis of peat

L3 ANSWER 145 OF 263 CABA COPYRIGHT 2005 CABI on STN
TI Nitrogen turnover in alternatives to peat.

L3 ANSWER 146 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Successions of cover crop in Piceeta vaccinosa after clear fellings by aggregate technique.

L3 ANSWER 147 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Effects of mechanical signaling on plant cell cytosolic calcium.

L3 ANSWER 148 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI A tool for monitoring Trichoderma harzianum: II. The use of a GUS **transformant** for ecological studies in the rhizosphere.

L3 ANSWER 149 OF 263 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN
TI Analysis of the protein kinase activity of moss phytochrome expressed in fibroblast cell culture.

L3 ANSWER 150 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
TI Thirty years of change in the vegetation communities of three valley mires in Suffolk, England.

=> d bib abs 140 138 128 125 120 121 116 110 101 105

L3 ANSWER 140 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
AN 1996:187773 BIOSIS
DN PREV199698743902
TI Tetracycline-regulated reporter gene expression in the moss **Physcomitrella** patens.
AU Zeidler, Mathias; Gatz, Christiane; Hartmann, Elmar; Hughes, Jon [Reprint author]
CS Institut fuer Pflanzenphysiologie, Freie Universitaet Berlin, Koenigin-Luise-Strasse 12-16, D-14195 Berlin, Germany
SO Plant Molecular Biology, (1996) Vol. 30, No. 1, pp. 199-205. CODEN: PMBIDB. ISSN: 0167-4412.
DT Article

LA English
ED Entered STN: 29 Apr 1996
Last Updated on STN: 29 Apr 1996
AB As ancestors of higher plants, mosses offer advantages as simple model organisms in studying complex processes such as development and signal transduction. Overexpression of transgenes after genetic **transformation** is a powerful technique in such studies. To establish a controllable expression system for this experimental approach we expressed a chimeric protein consisting of the Tn10-encoded Tet repressor and the activation domain of Herpes simplex virion protein 16 in the moss **Physcomitrella** patens. We showed that this protein activates transcription from a suitable target promoter (Top10) containing seven operators upstream of a TATA box. In media containing very low levels of tetracycline (1 mg/l), expression levels of a beta-glucuronidase (GUS) reporter gene dropped to lt 1% of that in the absence of tetracycline. This regulation is due to interference of tetracycline with the DNA binding activity of the Tet repressor portion of the chimeric transcriptional activator. Stable **transformants** grown for three weeks on tetracycline-containing media showed negligible GUS activity, whereas GUS was expressed strongly within 24 h of transfer to tetracycline-free media. Potent and stringently regulated expression of other, physiologically active genes is thus readily available in the moss system using the convenient Top10 expression system.

L3 ANSWER 138 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporatio
AN 1996:538007 BIOSIS
DN PREV199699260363
TI Stable **transformation** of cultured cells of the liverwort **Marchantia** polymorpha by particle bombardment.
AU Irifune, Kohei; Ono, Kanji; Takahashi, Misa; Murakami, Hideko; Morikawa, Hiromichi [Reprint author]
CS Grad. Dep. Gene Sci., Fac. Sci., Hiroshima Univ., Kagamiyama, Higashi-Hiroshima 739, Japan
SO Transgenic Research, (1996) Vol. 5, No. 5, pp. 337-341.
ISSN: 0962-8819.
DT Article
LA English
ED Entered STN: 10 Dec 1996
Last Updated on STN: 10 Dec 1996
AB Suspension-cultured cells (A-18 line) of the liverwort **Marchantia** polymorpha were bombarded by a pneumatic particle gun with plasmid pCH harbouring the hygromycin phosphotransferase (HPT) gene (hpt) under the control of the cauliflower mosaic virus (CaMV) 35S promoter and the nopaline synthase polyadenylation region. Nine weeks after bombardment, 128 hygromycin-resistant calluses were obtained from an approximate total of 7 times 10-6 cells. Ten cell lines chosen randomly were analysed further. Southern blot analysis showed that all of the ten lines contain the hpt gene in the genome, demonstrating that these lines are **transformants**. An HPT enzyme activity assay confirmed the expression of the gene in all of the **transformant** lines.

L3 ANSWER 128 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
AN 1998:180463 BIOSIS
DN PREV199800180463
TI Efficient **transformation** of **Marchantia** polymorpha that is haploid and has very small genome DNA.
AU Nasu, Masao; Tani, Katsuji [Reprint author]; Hattori, Chizuko; Hondaa, Motoyasu; Shimaoka, Taise; Yamaguchi, Nobuyasu; Katoh, Kenji
CS Environ. Sci. Microbiol., Fac. Pharm. Sci., Osaka Univ., 1-6 Yamadaoka, Suita, Osaka 565, Japan
SO Journal of Fermentation and Bioengineering, (1997) Vol. 84, No. 6, pp. 519-523. print.
CODEN: JFBIEX. ISSN: 0922-338X.
DT Article
LA English
ED Entered STN: 20 Apr 1998
Last Updated on STN: 20 Apr 1998

AB The genomic DNA content of a cultured cell of **Marchantia** polymorpha HYA-2F was examined using a now cytometer. It was estimated to be 0.32 pg (C), with a G + C content of 57.1%. The DNA content was less than that of Arabidopsis thaliana. The frequency of **transformation** by Agrobacterium tumefaciens using a binary vector plasmid pBI121 in the presence of acetosyringone was approximately 10%. GUS expression analysis and Southern blotting analysis of the genomic DNA of **transformants** revealed that all regions of T-DNA on plasmid pBI121 were integrated into the genome of M. polymorpha.

L3 ANSWER 125 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
AN 1997:345271 BIOSIS
DN PREV199799644474
TI Efficient gene targeting in the moss **Physcomitrella** patens.
AU Schaefer, Didier G. [Reprint author]; Zyrd, Jean-Pierre
CS Laboratoire de Phytogenetique Cellulaire, Universite de Lausanne, Batiment de Biologie, CH-1015 Lausanne-Dorigny, Switzerland
SO Plant Journal, (1997) Vol. 11, No. 6, pp. 1195-1206.
ISSN: 0960-7412.
DT Article
LA English
ED Entered STN: 11 Aug 1997
Last Updated on STN: 11 Aug 1997
AB The moss **Physcomitrella** patens is used as a genetic model system to study plant development, taking advantage of the fact that the haploid gametophyte dominates in its life cycle. **Transformation** experiments designed to target three single-copy genomic loci were performed to determine the efficiency of gene targeting in this plant. Mean **transformation** rates were 10-fold higher with the targeting vectors and molecular evidence for the integration of exogenous DNA into each targeted locus by homologous recombination is provided. The efficiency of gene targeting determined in these experiments is above 90%, which is in the range of that observed in yeast and several orders of magnitude higher than previous reports of gene targeting in plants. Thus, gene knock-out and allele replacement approaches are directly accessible to study plant development in the moss **Physcomitrella** patens. Moreover, efficient gene targeting has so far only been observed in lower eukaryotes such as protozoa, yeasts and filamentous fungi, and, as shown here the first example from the plant kingdom is a haplobiontic moss. This suggests a possible correlation between efficient gene targeting and haplophase in eukaryotes.

L3 ANSWER 120 OF 263 CABA COPYRIGHT 2005 CABI on STN
AN 1998:89622 CABA
DN 19981606598
TI Towards targeted **transformation** in plants
AU Puchta, H.
CS Institut fur Pflanzengenetik und Kulturpflanzenforschung, Correnssstrasse 3, D-06466 Gatersleben, Germany.
SO Trends in Plant Science, (1998) Vol. 3, No. 3, pp. 77-78. 13 ref.
DT Journal
LA English
ED Entered STN: 19980611
Last Updated on STN: 19980611
AB In spite of improved understanding of homologous recombination in plants, the goal of a feasible gene targeting technique has proved elusive. Recently, **transformation** frequencies in a moss, **Physcomitrella** patens, increased ten-fold when the **transforming** DNA contained sequences identical to the moss genome. This paper briefly considers some of the problems in the application of this technique to higher plants and discusses the use of **Physcomitrella** as a model organism.

L3 ANSWER 121 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
AN 1998:362615 BIOSIS
DN PREV199800362615
TI Identification of a novel DELTA6-acyl-group desaturase by targeted gene

disruption in **Physcomitrella** patens.
AU Girke, Thomas; Schmidt, Hermann; Zaehringer, Ulrich; Reski, Ralf; Heinz, Ernst [Reprint author]
CS Univ. Hamburg, Inst. Allg. Bot., Ohnhorststr. 18, D-22609 Hamburg, Germany
SO Plant Journal, (July, 1998) Vol. 15, No. 1, pp. 39-48. print.
ISSN: 0960-7412.
DT Article
LA English
OS EMBL-AJ222980; EMBL-AJ222981
ED Entered STN: 27 Aug 1998
Last Updated on STN: 21 Oct 1998
AB The moss **Physcomitrella** patens contains high levels of arachidonic acid. For its synthesis from linoleic acid by desaturation and elongation, novel DELTA5- and DELTA6- desaturases are required. To isolate one of these, PCR-based cloning was used, and resulted in the isolation of a full-length cDNA coding for a putatively new desaturase. The deduced amino acid sequence has three domains: a N-terminal segment of about 100 amino acids, with no similarity to any sequence in the data banks, followed by a cytochrome b5-related region and a C-terminal sequence with low similarity (27% identity) to acyl-lipid desaturases. To elucidate the function of this protein, we disrupted its gene by **transforming** P. patens with the corresponding linear genomic sequence, into which a positive selection marker had been inserted. The molecular analysis of five **transformed** lines showed that the selection cartridge had been inserted into the corresponding genomic locus of all five lines. The gene disruption resulted in a dramatic alteration of the fatty acid pattern in the knockout plants. The large increase in linoleic acid and the concomitant disappearance of gamma-linolenic and arachidonic acid in all knockout lines suggested that the new cDNA coded for a DELTA6-desaturase. This was confirmed by expression of the cDNA in yeast and analysis of the resultant fatty acids by GC-MS. Only the **transformed** yeast cells were able to introduce a further double bond into the DELTA6-position of unsaturated fatty acids. To our knowledge, this is the first report of a successful gene disruption in a multicellular plant resulting in a specific biochemical phenotype.

L3 ANSWER 116 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
AN 1998:448697 BIOSIS
DN PREV199800448697
TI Expression of the bacterial ipt gene in **Physcomitrella** rescues mutations in budding and in plastid division.
AU Reutter, Kirsten; Atzorn, Rainer; Hadeler, Birgit; Schmuelling, Thomas; Reski, Ralf [Reprint author]
CS Albert-Ludwigs-Universitaet, Institut fuer Biologie II, Schaenzlestr. 1, D-79104 Freiburg, Germany
SO Planta (Berlin), (Oct., 1998) Vol. 206, No. 2, pp. 196-203. print.
CODEN: PLANAB. ISSN: 0032-0935.
DT Article
LA English
ED Entered STN: 21 Oct 1998
Last Updated on STN: 21 Oct 1998
AB Development of **Physcomitrella** patens (Hedw.) B.S.G. starts with a filamentous protonema growing by apical cell division. As a developmental switch, some subapical cells produce three-faced apical cells, the so-called buds, which grow to form leafy shoots, the gametophores. Application of cytokinins enhances bud formation but no subsequent gametophore development in several mosses. We used the ipt gene of Agrobacterium tumefaciens, encoding a protein which catalyzes the rate-limiting step in cytokinin biosynthesis, to **transform** two developmental **Physcomitrella** mutants. One mutant (P24) was defective in budding (bud) and thus did not produce three-faced cells, while the other one (PC22) was a double mutant, defective in plastid division (pdi), thus possessing at the most one giant chloroplast per cell, and in gametophore development (gad), resulting in malformed buds which could not differentiate into leafy gametophores. Expression of the ipt gene rescued the mutations in budding and in plastid division but not the one in gametophore development. By mutant rescue we provide evidence

for a distinct physiological difference between externally applied and internally produced cytokinins. Levels of immunoreactive cytokinins and indole-3-acetic acid were determined in tissues and in culture media of the wild-type moss, both mutants and four of their stable ipt **transformants**. Isopentenyl-type cytokinins were the most abundant cytokinins in **Physcomitrella**, whereas zeatin-type cytokinins, the major native cytokinins of higher plants, were not detectable. Cytokinin as well as auxin levels were enhanced in ipt transgenics, demonstrating a cross-talk between both metabolic pathways. In all genotypes, most of the cytokinin and auxin was found extracellularly. These extracellular pools may be involved in hormone transport in the non-vascular mosses. We suggest that both mutants are defective in signal-transduction rather than in cytokinin metabolism.

L3 ANSWER 110 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:187047 CAPLUS
DN 130:307285
TI Particle bombardment mediated **transformation** and GFP expression in the moss **Physcomitrella** patens
AU Cho, Sung-Hyun; Chung, Young-Soo; Cho, Sung-Ki; Rim, Yong-Woo; Shin, Jeong-Sheop
CS Graduate School of Biotechnology, Korea University, Seoul, 136-701, S. Korea
SO Molecules and Cells (1999), 9(1), 14-19
CODEN: MOCEEK; ISSN: 1016-8478
PB Springer-Verlag Singapore Pte. Ltd.
DT Journal
LA English
AB There are few plants facilitated for the study of development, morphogenesis and gene expression at the cellular level. The moss **Physcomitrella** patens can be a very useful plant with several advantages: simple life cycle containing a major haploid gametophyte stage, easy manipulation, small genome size (6 + 108 bp) and high similarities with higher plants. To establish the **transformation** system of mosses as a model for basic plant research, a series of expts. were performed. Mosses were cultured in cellophane overlaid BCD media, **transformed** by particle bombardment and selected by the choice of appropriate antibiotics. Initial **transformants** appeared 8 or 14 days after selection, showing different sensitivities toward the antibiotics used. Heat treatment during the preparation of particles revealed that denaturing the DNA enabled a more efficient way to deliver a transgene into the chromosome. This was proven by the increase in the number of **transformants** by five times in the plants with denatured DNA. In the test for the repairing capacity of mosses, 154 and 195 **transformants** survived from 1 and 3 days incubations, resp., indicating that a longer period of incubation seemed to be recommendable for better survival. The selected **transformants** were further analyzed at the DNA and expression level. **Transformed** genes were confirmed by PCR where all the **transformants** showed the expected size of amplification. Histochem. β-glucuronidase (GUS) and green fluorescent protein (GFP) expression also confirmed the integration of exogenous DNA. In a comparison of the two different forms of GFP, soluble-modified GFP (smGFP) expressed stronger signals than modified GFP (mGFP) due to its improved solubility Confirmation of the transgene in the chloroplast **transformation** has improved the applicability of moss as a model system for the study of basic biol. researches.
RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 101 OF 263 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
AN 1999:356531 BIOSIS
DN PREV199900356531
TI Transgene expression in the moss **Ceratodon** purpureus.
AU Zeidler, Mathias [Reprint author]; Hartmann, Elmar; Hughes, Jon
CS Freie Universitaet Berlin, Institut fuer Pflanzenphysiologie, Koenigin-Luise-Strasse 12-16, D-14195, Berlin, Germany
SO Journal of Plant Physiology, (May, 1999) Vol. 154, No. 5-6, pp. 641-650.

print.
CODEN: JPPHEY. ISSN: 0176-1617.
DT Article
LA English
ED Entered STN: 2 Sep 1999
Last Updated on STN: 2 Sep 1999
AB Moss protonemal filaments provide a useful plant model system for physiological studies of single cells and, as gametophytes, are attractive targets for mutation analysis. With its ability to grow in darkness, the species **Ceratodon** purpureus has proven particularly useful in photobiology. We describe an optimised **transformation** procedure for this species. The use of various selectable (HPT, NPT) and screenable (GUS, LUC, GFP) reporters was established and different expression vectors were constructed for both constitutive (P-Actin1) and tetracycline-regulated (P-Top10) gene expression. The fate of transgenes introduced into the cell was monitored utilising a GFP construct by observing the expression pattern throughout recovery from the **transformation** procedure and further development.

L3 ANSWER 105 OF 263 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:337375 CAPLUS
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TI Molecular genetics of **Physcomitrella**
AU Reski, Ralf
CS Inst. Biol. II, Albert-Ludwigs-Univ., Freiburg/Br., D-79104, Germany
SO Planta (1999), 208(3), 301-309
CODEN: PLANAB; ISSN: 0032-0935
PB Springer-Verlag
DT Journal; General Review
LA English
AB A review is given with many refs. From the physiol. reports it is obvious that as many basic biol. aspects can be studied in the moss as in higher plants, although sometimes more easily. Several genes have now been cloned from **Physcomitrella** and they turn out to be remarkably homologous to their cognate higher-plant genes. All **transformation** expts. so far have demonstrated that there are no differences in promoter function or in codon usage between **Physcomitrella** and dicotyledonous angiosperms such as Arabidopsis or Nicotiana. The simplicity of the system allows developmental anal. at the cellular level to be carried out, combining the methods of plant physiol. and mol. genetics with those of modern cell biol. all in one organism. The success story of yeast as a widely used model system is based on the possibility of using reverse genetics in a unicellular eukaryote. **Physcomitrella** is not a microorganism and therefore cannot compete with yeast in terms of growth rate and facility of handling. But as a multicellular land plant, **Physcomitrella** obviously has added value for the plant science community, appealing to many different interests. Plastid DNA and mitochondrial DNA mapping from **Physcomitrella** were described. Chromosome number, genome size, and cell cycle were analyzed. Sequence homologies and codon usage for nuclear genes of **Physcomitrella** were studied.
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